

Process Cooling

Process Water Cooler MTG

This range of cold water chillers is designed for production plants in companies producing beverages. The units are of a robust, superior industrial quality and provide a reliable supply of cold water at a consistent temperature for the cooling processes. The water system can be configured as an open or closed system when selecting accessories. The range is complemented by kits available for the water circulation system which ensure simple and reliable connection.

Features (standard equipment)

- Water temperature (discharge): -10... 30°C (less than 5°C: glycol brine is required!) ¹¹⁾
- Ambient temperature: -20... 46°C
- Glycol-resistant stainless steel centrifugal pump: 3bar available pressure; pressure gauge on discharge/flow
- Insulated stainless steel water tank with level monitor (automatic deactivation in case of inadequate water)
- Evaporator immersed in the stainless steel tank
- Refrigerant pressure gauge for high and low-pressure side (not MTG-20)
- Refrigerant: MTG-20...71: R513A; from MTG-81: R454B
- System/Expansion tank, atmospheric (standard) or closed design (option) configurable
- Electronic expansion valve (not MTG-20)
- Power supply: 400V (+/- 10%); 3-PE; 50Hz

Control:

- Contained in industrial cabinet
- Electronic temperature controller
- Central alarm output
- Enabling contact input compressor/pump

Miscellaneous:

- Emergency stop main switch; phase protection relay
- Mechanical protection for condenser fin protection
- Galvanized carbon steel chassis plates, polyester coated

Protection rating:

- IP54 (MT-20: IP44), resistant to water spray
- Weatherproof design, suitable for outdoor installation

Designation	Refrigerating capacity ¹⁾	For tank volume ⁴⁾	Order no.	Unit price/E
MTG-20	7,2 kW	36.500 Ltr.	303.7000	
MTG-31	10,4 kW	52.500 Ltr.	303.7001	
MTG-51	14,9 kW	76.500 Ltr.	303.7002	
MTG-71	23,4 kW	122.500 Ltr.	303.7003	
MTG-81	30,1 kW	164.000 Ltr.	303.7004	
MTG-101	35,4 kW	194.000 Ltr.	303.7005	
MTG-121	45,4 kW	245.000 Ltr.	303.7006	
MTG-161	48,9 kW	270.000 Ltr.	303.7007	
MTG-201	59,7 kW	325.000 Ltr.	303.7008	

Other models up to 254KW available on request.



R513A

R454B

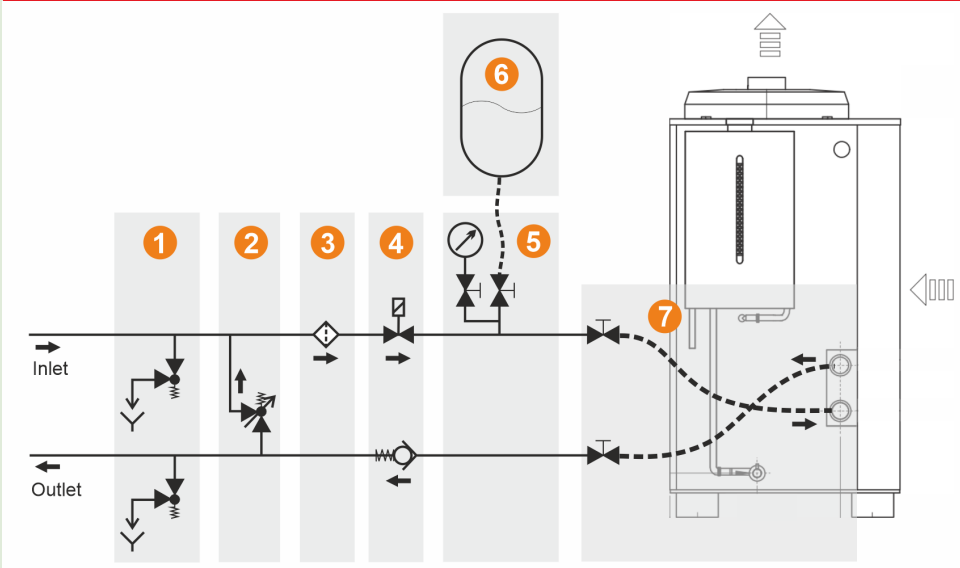


- 15/20 °C water, 25 °C air.
- 7/12 °C water, 35 °C air.
- 7/12 °C water, 25 °C air.
- 50% of which simultaneously in fermentation.
- MTG cooler, P3 pump, on/off fan(s) speed control, full load.
- Free space at 10 m distance from condenser side and h=1,6m.
- Axial: For ambient temperatures down to -20 °C (brine operation).
- Only required in non-pressurised systems at a higher level than the machine tank and where air can flow into the water system (e.g. automatic air venting valve, connections for cooling hoses, etc.). Consists of a solenoid valve, non-return valve and all connection fittings.
- Max. water volume in system (pipes, cooling plates and other heat exchangers, buffer tank inside and, where appropriate, outside the cooler).
- Consists of a diaphragm expansion tank, safety valve, air vent and automatic refilling system (machine equipment).
- Approved: Tyfocor L and Antifrogen L (25%... 50% concentration).
- It is recommended that, in addition to the compressor acoustic hood option, the fan speed control option should also be reserved.
- Consists of reinforced hoses with stainless steel sheathing, non-return valves and transition fittings.
- Ensures the prescribed minimum flow, even if all consumers are inactive. Consists of an overflow valve and all required connection fittings.
- Always necessary, prevents critical excessive pressure caused by temperature fluctuations in the pipe system if the water contained therein is enclosed through sealed valves. Consists of 2 pressure relief valves and all connection fittings.
- Obligatory option if the cooler is intended to be part of a closed pressure system.

Legend

1:	Safety valve kit (safety valves, fittings)
2:	Adjustable overflow valve kit (overflow valve, fittings).
3:	Water filter kit (dirt traps, double nipples).
4:	Return flow prevention kit if the system is higher than the machine (solenoid valve, non-return valve, fittings).
5:	Expansion tank connection kit (capped valve, pressure gauge, reinforced hose, fittings).
6:	Expansion tank diaphragm (size depends on system volume)
7:	Refrigerator connection kit (reinforced hoses, ball valves, fittings).

Connection Diagram



Connection diagram (principle representation). The stipulations in the manufacturer's operating instructions apply.

Other models and options available on request.

Errors and omissions excepted. The manufacturer's technical data applies. Subject to change without notice.

Cooling Technology

Technical data for process water cooler MTG										
Designation		MTG-20	MTG-31	MTG-51	MTG-71	MTG-81	MTG-101	MTG-121	MTG-161	MTG-201
Order no.		303.7000	303.7001	303.7002	303.7003	303.7004	303.7005	303.7006	303.7007	303.7008
Nominal refrigerating capacity ¹⁾	kW	7,2	10,4	14,9	23,4	30,1	35,4	45,4	48,9	59,7
Capacity acc. Eurovent ²⁾	kW	5,0	7,2	10,4	16,6	21,9	26,0	33,1	36,0	43,4
Capacity acc. autumnal conditions ³⁾	kW	5,5	7,9	11,5	18,4	24,6	29,1	36,7	40,4	48,6
Compressors / Circuits	no.	1 / 1	1 / 1	1 / 1	1 / 1	1 / 1	1 / 1	1 / 1	1 / 1	2 / 1
No. of fans	no.	1	1	1	1	1	2	2	2	2
Total air flow rate	m ³ /h	3.150	6.300	6.100	8.150	8.150	14.200	12.400	12.400	16.200
Power / Current / Peak current ⁵⁾	kW / A / A	4,3/7,2/42	5,5/8,8/53	6,8/13/77	10/17/115	10/17/115	14/25/123	19/33/165	21/36/204	24/40/134
Water flow rate / pressure (dT=5K) ³⁾	m ³ /h / bar	0,8 / 2,9	1,2 / 2,9	1,7 / 2,8	2,8 / 2,7	3,7 / 2,7	4,4 / 2,6	5,5 / 2,7	6,0 / 2,6	7,3 / 2,7
Available pressure (minimum flow)	bar	3,0	3,1	3,0	3,0	3,0	2,9	2,8	2,8	2,8
Water connection	inches	3/4	1	1	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2	2
Water tank capacity	Liter	60	115	115	140	140	255	255	255	350
Sound pressure level ⁶⁾	dB(A)	52,4	53,1	53,1	53,6	53,6	54,1	54,1	55,0	56,3
Width	mm	560	660	660	761	761	761	761	761	866
Height	mm	904	1.420	1.420	1.556	1.556	1.556	1.556	1.556	2.172
Depth	mm	1.284	1.315	1.315	1.862	1.862	1.862	1.862	1.862	2.250
Tare weight	kg	199	314	324	462	462	624	635	649	924
Maschine options	Order no.									
Option EC fan(s)	advised	--	303.7051	303.7052	303.7053	303.7054	303.7055	303.7056	303.7057	303.7058
Option EC fan(s), Tu -20°C ⁷⁾	advised	--	303.7101	303.7102	303.7103	303.7104	303.7105	303.7106	303.7107	303.7108
Option Closed system ¹⁰⁾	duty ¹⁶⁾	303.7150	303.7151	303.7152	303.7153	303.7154	303.7155	303.7156	303.7157	303.7158
Option without open expan. vessel		303.7200	303.7201	303.7202	303.7203	303.7204	303.7205	303.7206	303.7207	303.7208
Option Pump for open cool. circuits		303.7250	303.7251	303.7252	303.7253	303.7254	303.7255	303.7256	303.7257	303.7258
Option Remote control		303.7450	303.7450	303.7450	303.7450	303.7450	303.7450	303.7450	303.7450	303.7450
Accessories for open systems	Order no.									
Kit Refrigerator connection ¹³⁾		304.9111	304.9112	304.9112	304.9113	304.9113	304.9113	304.9113	304.9113	304.9114
Kit Adjustable overflow valve ¹⁴⁾	duty	304.9171	304.9172	304.9172	304.9173	304.9173	304.9173	304.9173	304.9173	304.9174
Kit Safety valve ¹⁵⁾	duty	304.9161	304.9162	304.9162	304.9164	304.9164	304.9164	304.9164	304.9164	304.9160
Kit Return flow prevention ⁹⁾	duty ⁸⁾	304.9131	304.9132	304.9132	304.9134	304.9134	304.9134	304.9134	304.9134	304.9135
Kit Water filter	duty	304.9140	304.9141	304.9141	304.9143	304.9143	304.9143	304.9143	304.9143	304.9144
Accessories for closed systems	Bestell-Nr.									
Kit Refrigerator connection ¹³⁾		304.9111	304.9112	304.9112	304.9113	304.9113	304.9113	304.9113	304.9113	304.9114
Kit Adjustable overflow valve ¹⁴⁾	duty	304.9171	304.9172	304.9172	304.9173	304.9173	304.9173	304.9173	304.9173	304.9174
Kit Safty valve ¹⁵⁾	duty	304.9161	304.9162	304.9162	304.0164	304.9164	304.9164	304.9164	304.9164	304.9160
Kit Water filter	duty	304.9140	304.9141	304.9141	304.9143	304.9143	304.9143	304.9143	304.9143	304.9144
Kit Expansion vessel connection 1" ¹¹⁾	duty	304.9165	304.9167	304.9167	304.9168	304.9168	304.9168	304.9168	304.9168	304.9169
Expansion vessel 24l, 1" 660l ⁹⁾	duty	304.6020	304.6020	304.6020	304.6020	304.6020	304.6020	304.6020	304.6020	304.6020
Expansion vessel 60l, 1" 1250l ⁹⁾	duty	304.6025	304.6025	304.6025	304.6025	304.6025	304.6025	304.6025	304.6025	304.6025
MT-Close safety assembly		303.4603	303.4603	303.4603	303.4603	303.4603	303.4603	303.4603	303.4603	304.4603
Other accessories for all modells	Order no.									
Propylen glycol (food save) 11kg canister		400.0002								
Propylen glycol (food save) 21kg canister		400.0005								
Propylen glycol (food save) 31kg canister		400.0001								
Hydrometer for glycol concentration measurement		400.0003								
IMPORTANT INSTRUCTIONS										
<ul style="list-style-type: none"> ▶ If pure water is used (without antifreeze additive), all system parts conveying water should be installed frost-protected and emptied completely during the frost period. ▶ Where glycol is utilised, a food save product ¹¹⁾ should be selected and a minimum concentration of 25% (recommended min. 35%) achieved. ▶ Note the flow direction marked with the arrow during installation of components. ▶ Components installed outdoors should be protected against UV irradiation, particularly plastic components. ▶ Observe the pressure calibration instructions to ensure operation free of malfunctions and avoid damage to the machine. ▶ When using the refrigerant R454B indoors, a minimum room volume must be observed or additional ventilation measures must be taken. ▶ The omission of prescribed system parts can lead to damage to the cooler and other system parts. 										